TRAK 'AT' SERIES DRIVE USER'S GUIDE

THE MOST ADVANCED SINGLE AND DOUBLE DENSITY DRIVE SYSTEMS IN THE UNIVERSE

Congratulotions!

You've just purchosed the world's mast odvonced disk drives for your Atari* computer system. In little more than twa years, TRAK disk drive systems hove edged aut foctory-supplied disk drives in overoll performance, reliobility and value. Consequently, TRAK hos goined an enviable worldwide reputation for producing — ond delivering — drive systems that represent mojor advonces in technology and innavotion. The word hos quickly spread.

But we hoven't rested on our lourels. We have engineered revolutionary intelligent ond ottractive drive systems which combine advonced microcomputer know-how ond spoceage design to enhonce the performonce of microcomputers os never before.

We made our new drives smorter, faster, more powerful ond yet smoller in size ond price. For exomple, our new smart drive systems hove on-boord microprocessars ond progrommed memory to provide twice the storoge copocity of foctory units and power ond intelligence to control printers ond modems as well - another industry first from TRAK!

But there's more. Improving on our winners, we designed commond control ponels with reod, write and density indicators, trock counters to locote every bit of your dota and touch sensitive switches to protect it.

For business and professionol users who need lorge high-speed storage, we designed the powerful ond elegont COMMANDER series of expondoble hard disk systems. These compact modular systems expond to meet the increasing doto storage requirements of o growing business — with performance thot transforms personol computers into powerful business mochines.

You can expect the best values ond service in disk drives from TRAK's worldwide dealer network, so enjoy the quolity and dependability offered by the world's most advonced disk drives and the resulting enhonced performance of your Atori computer system.

*Atari is a registered Trademark of Atari, Inc.

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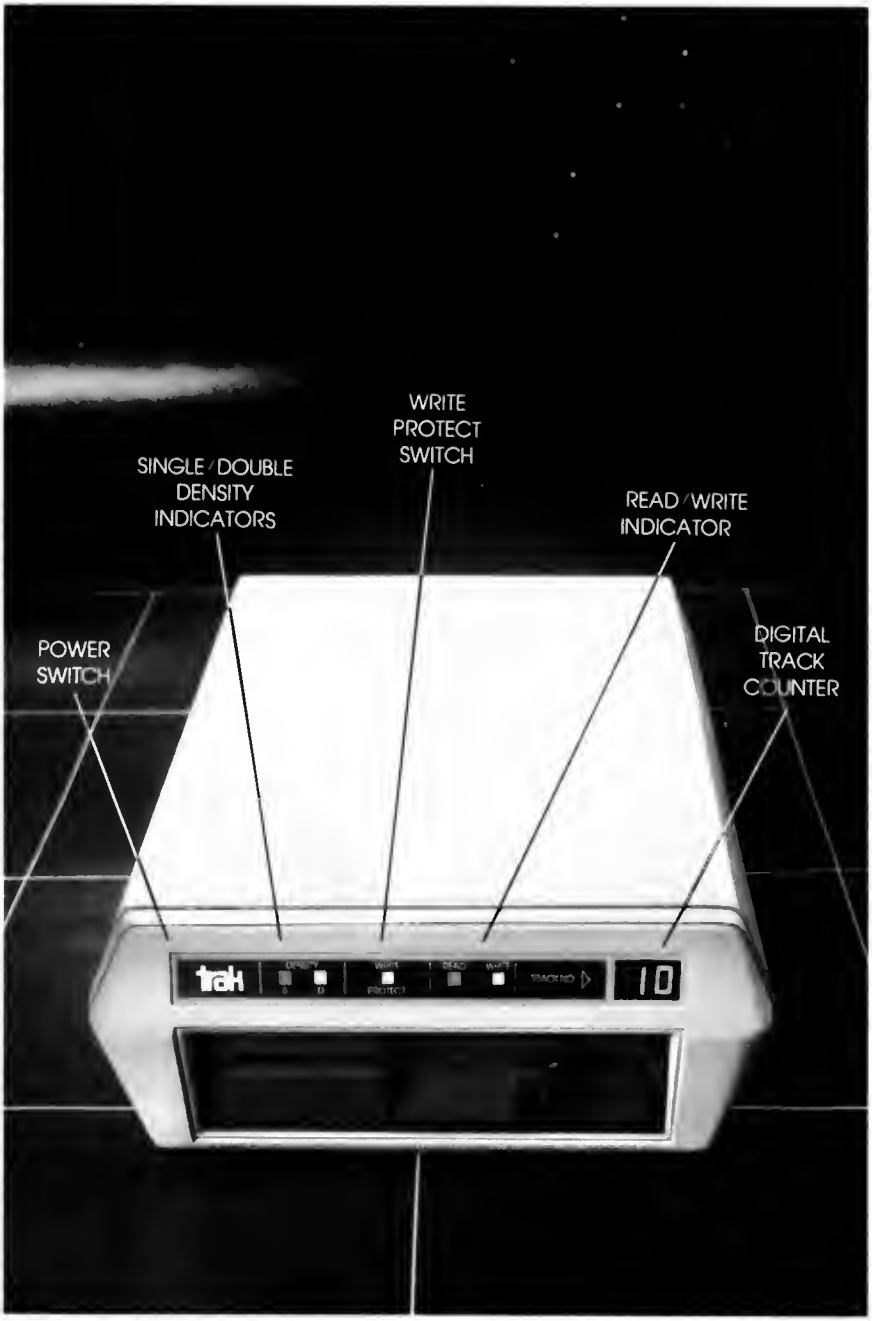


figure 1 Command Control Ponel Features of 'AT' Series Drives

features of TRAK's 'AT' series drives

The **TRAK AT-1** is a double density, intelligent disk drive system for your Atari computer system. The Command Control Panel on the drive includes a touch-sensitive power switch and write protect switch, read/write indicators and single/double density indicators which continuously inform you as to what your drive is doing. With the AT-1 you can attach additional disk drives and other Atari peripherals such as cassette recorders. Upgrade kits available for the AT-1 include a parallel printer interface with a built-in 4K printer buffer which is upgradeable to 16K.

The **AT-D1** is a single density disk drive with all the features of the AT-1 **PLUS** a built-in parallel printer interface with a 4K printer buffer. You can upgrade this drive to include a 16K printer buffer and double density.

The top-of-the-line **AT-D2** combines all of the features of the AT-D1 **PLUS** double density operation.

DOUBLE DENSITY - TRAK's double density disk drives are true double density. They have a capacity of 176 bytes. That is twice the storage of Atari's 810 drive and half again as much as their new 1050 drive. You will be able to store more programs per disk. That saves you space and money, for you will not have to buy as many diskettes to store the same amount of data.

COMMAND CONTROL PANEL - The command control panel featured on all of our 'AT' series disk drives puts vital information at your fingertips with easy to use, easy to access functions. Take the power switch for example. We put it right up front so it is easy to find. No more groping around the back of the drive to turn it on. Just brush the TRAK name with the tip of your finger and watch the drive come alive and await your command. (See figure 1)

We have added a write protect switch to protect your valuable data on command. A mere touch of a finger and your data is indestructible, no more fear of accidently erasing your favorite program. An indicator light stands as a silent sentinel to ensure your data is safe from harm.

Other indicators tell you when you are reading or writing information and whether your drive is in single or double density operation. The digital track counter constantly shows you where all of your information is being read from or written to, an unprecendented programming aid.

PRINTER PORT - Our deluxe models, the AT-D1 and AT-D2 come standard with a built-in parallel printer interface. This allows you to plug in your favorite parallel printer directly into the back of your disk drive (See Figure 2a). You do not need to buy an expensive interface module from Atari, a savings to you of at least $200.

The printer operation through the disk drive is completely transparent to the computer. No extra commands are needed to control the printer.

4K PRINTER BUFFER - In addition to the built-in printer port, we also give you a 4K printer buffer to go with it. No more waiting while your computer is sending data to your printer at a snail's pace (See Figure 2b).

You see, the process that the Atari computer uses to communicate with the printer is very long and drawn out. It sends information one line at a time to the printer. It doesn't matter if the line is one character or one hundred. The computer reaches into memory, pulls out a line, sends it to the printer and the printer prints the line. Then the printer says to the computer "send me another line" and the whole long process starts over again and again and again until all the data has been printed.

trak saves you more than money

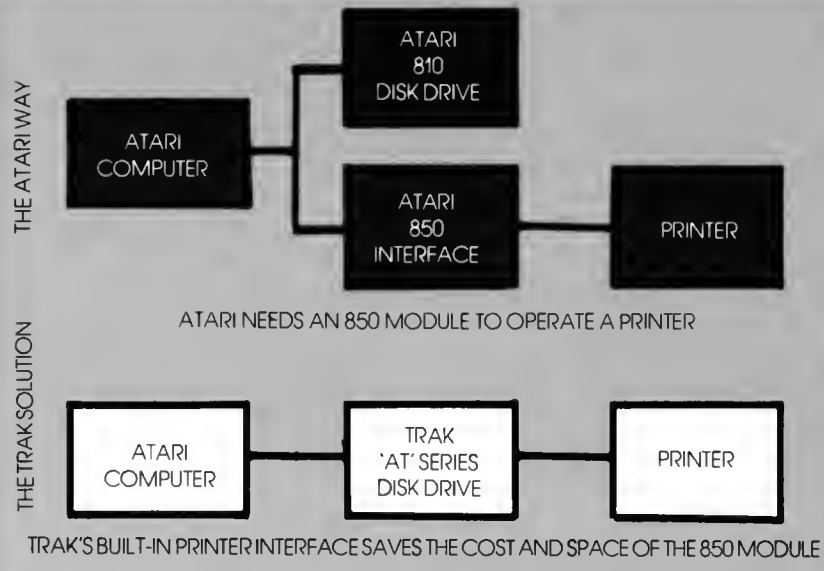


figure 2a

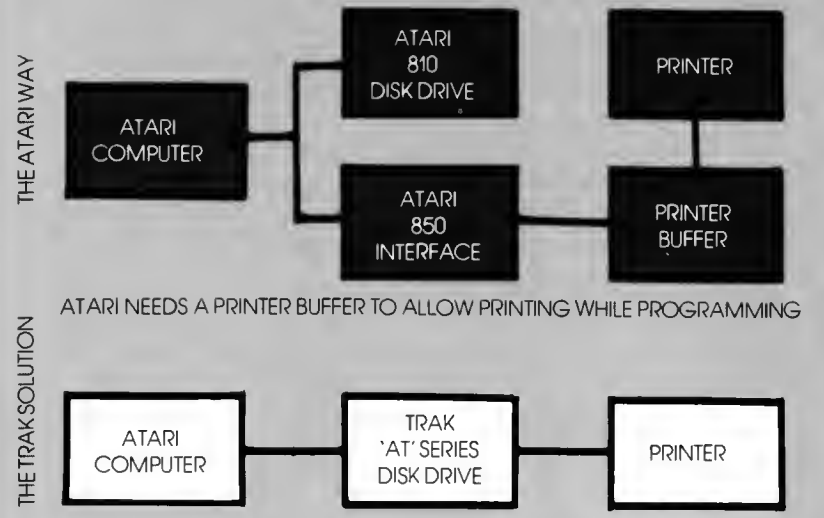


figure 2b

features, continued

With our printer buffer, when the printer asks for the first line, the computer sends data in one continuous stream until it exhausts itself or it fills up the 4K buffer (about 2 pages worth). All the printer has to do now is reach into the buffer for the data to be printed and doesn't have to bother the computer for it. This frees up your computer to do other tasks in a matter of a second or two rather than sitting there waiting for the printer to stop printing. And, you can access the disk even while the buffer is sending data to the printer!

16K BUFFER UPGRADE - AND THERE'S MORE! Not only do we give you a 4K printer buffer on our AT-D1 and AT-D2 models but you can upgrade that memory to 16K, four times more memory for printing long program listings and documents up to 16,000 characters long.

TURBO SOFTWARE - Not only do we make your Atari smarter, we make it **faster!** Our turbo software enables your Atari to access information from the disk many times faster than ANY other disk drive! Here is how the turbo mode works. Your Atari computer normally looks for the information it requires by reading one sector off of the disk, looking to see if it is the sector that it needs, loading the data into memory or discarding it. Then the computer repeats the entire operation until it has all of the necessary information in memory. This is rather slow and inefficient.

With our turbo software, your Atari is able to read 18 sectors at a time instead of just one. The computer then takes whatever information it needs and instead of throwing the other data away it loads it into the printer buffer! Now, if the computer requests any other data from the track previously read, it first looks in the buffer for that data. If it locates the data in the buffer it does not have to access the disk drive which not only saves time but decreases wear and tear on the drive!

Now add the 16K upgrade and you could literally have entire programs stored in the printer buffer and not access the drive at all in many cases! This feature cuts access time dramatically on several of the new copy protected software where the program is stored in several non-consecutive sectors on the disk.

SHUT DOWN TIME - Another feature we have used to make your TRAK drive last a lot longer is our quicker shut-down time. A regular Atari disk drive runs for 8 seconds after all of the data has been accessed. All 'AT' drives run for only 4 seconds afterwards, thus cutting wear and tear in half.

AUTOMATIC DIAGNOSTICS - All 'AT' drives automatically tell you how they feel whenever you turn them on. Our built-in automatic diagnostic programs only take a half second to run but they test every function of your disk drive. You will get a status report on your screen or on your printer if it is connected to the back of the drive.

COMPACT DESIGN - TRAK drives take up a lot less room than other drives. Our 'AT' series drives are half the size of Atari's 810.

All these features combined will give you quality, performance and reliability unmatched by any other drive, for any other computer! Depend on it! Enjoy your new TRAK drive and the enhanced performance of your Atari computer system!

unpacking your disk drive

Please make sure that the following items are included with your drive:

1. The disk drive unit

2. The power supply

3. The connecting cable

4. The TRAK software utility diskette

5. The user's guide

If any items are missing, please contact your local dealer.

* Please keep all of your packing material in case you need to send your unit in for repair. If drive unit is not properly packed, extensive damage may result.

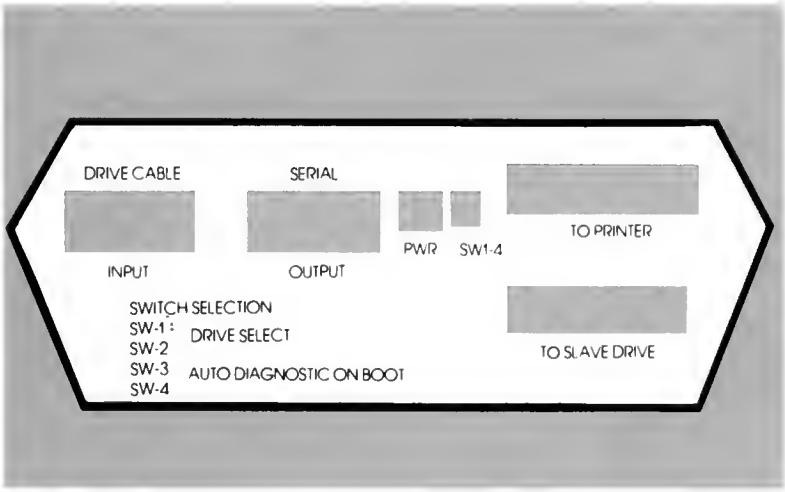


figure 3 Power and Peripheral Connections for 'AT' Series Drives

connecting your trak disk drive

If this is the only disk drive in your system, please follow steps 1-6 below. If you already have one or more disk drives, please turn to the next page for instructions on how to set your drive os second, third or fourth drives.

1. Turn off the power to all of the parts of your computer system.

2. Plug the AC odapter into an electric outlet. Plug the other end into the hole marked PWR on the back of the disk drive (see figure 3).

3. Plug one end of the interface cable into the jack on the side of your computer marked PERIPHERAL. Plug the other end into the jock morked INPUT on the back of your disk drive. If you hove ony other occessory plugged into the peripheral jock on your computer, remove it and plug it into the jack morked OUTPUT on the back of your disk drive.

4. Turn on the disk drive. Open the door by turning the handle in o counter-clockwise direction. Turn on the power to oll of your other devices except the computer.

5. Insert the Atari Disk Operation System (DOS) diskette ond close the door of the drive.

6. Turn on your computer. You ore now reody to use the disk drive. Refer to your DOS manual or the manual accompanying ony other software program that you wish to operote with your system for specific instructions.

switch settings for drive selection and automatic diagnostics

There is a small switch module in the back of the disk drive containing four small switches marked SW1-4. These switches are used for two purposes. The first two decide the position the drive will occupy in your system (first drive, second drive, etc.). The second two enable the disk drive to run a series of diagnostic tests on itself each time before you use it in order to see that everything is running properly. (See figure 4).

There are two positions for each switch, off and on. They are mounted so that when a switch is in the "UP", or 1 position, it is on, and off in the "DOWN" or 0 position.

Please refer to figure 5 to see how you should set your switches. Setting these switches is called configuring your drive.

NOTE: All drives are shipped preset as the first drive with the automatic diagnostics set to ON. If this is the only drive in your system, do not change the switch settings.

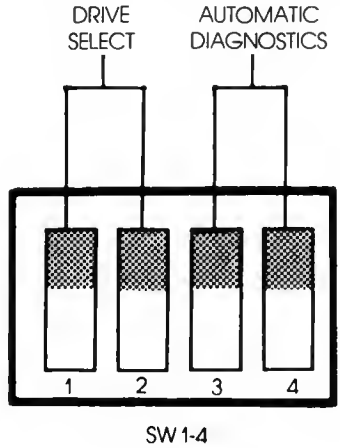
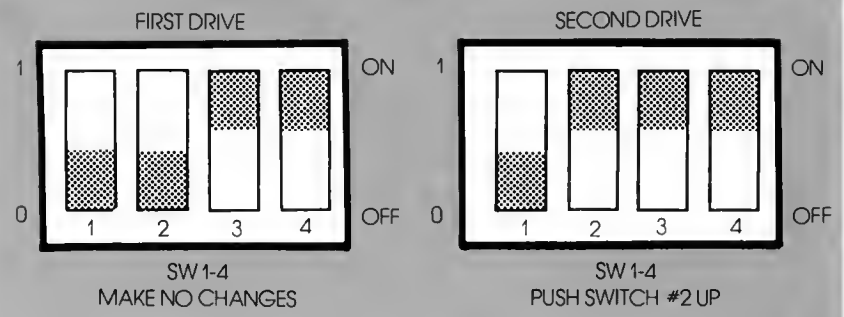
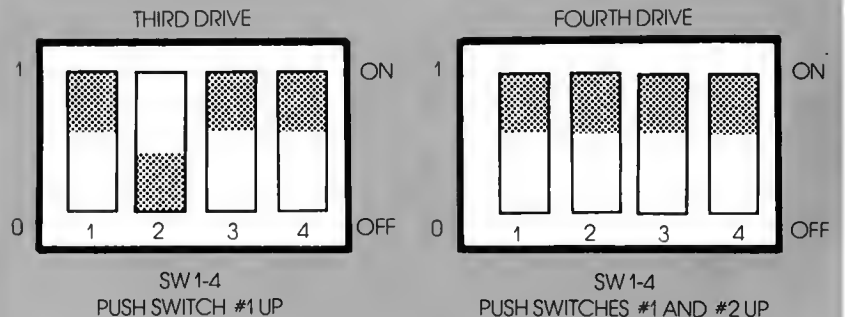


figure 4 Switches for Drive Selection and Automatic Diagnostics

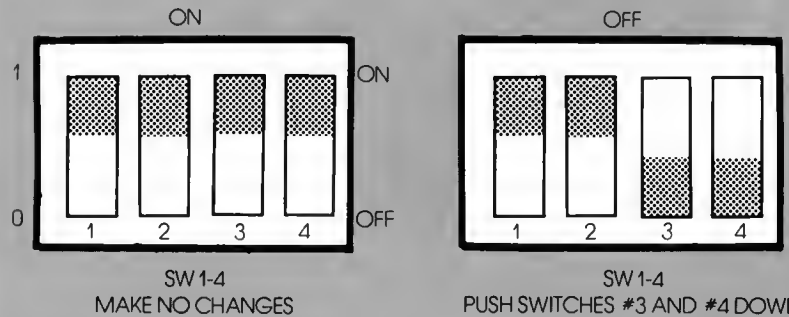
CONFIGURING YOUR DRIVE FOR DRIVE SELECTION





ALL DRIVES ARE SHIPPED SET IN THE FIRST DRIVE POSITION

CONFIGURING YOUR DRIVE FOR AUTOMATIC DIAGNOSTICS



ALL DRIVES ARE SHIPPED WITH THE AUTO-DIAGNOSTIC MODE SET TO ON

figure 5 Switch settings for Drive Selection and Automatic Diagnostics

connecting an additional disk drive or peripheral

1. Turn off the power to your disk drive.

2. Using a small screwdriver or pen, push the switches (marked SW 1-4) in the back of the disk drive to match the drive assignment number shown in figure 5.

3. If you wish to use another Atari peripheral such as a cassette recorder just plug it into the jack marked OUTPUT on the back of the disk drive (see figure 3).

connecting a printer to the drive

If you have an AT-D1 or AT-D2 drive you may connect a printer with a Centronics parallel interface capability directly into the back of our disk drive.

1. Plug the flat end of our AT-PC printer cable into the jack on the back of the disk drive marked TO PRINTER (see figure 3).

2. Plug the other end into your favorite parallel printer.

3. You are now ready to use the printer; no special commands are needed.

double density operation

Your TRAK AT-1 ond AT-D2 disk drives ore copoble of double density operotion. In oddition, the AT-D1 con be upgraded to double density operotion by your dealer.

When you first insert o diskette into your drive it will detect the diskette's density ond switch the disk drive operation accordingly.

To initiolize o double density diskette there ore two procedures.

1. If you are running Atori DOS, formot o blank diskette using our DDINIT utility.
   A. Lood your DOS diskette
   B. Insert o blank diskette
   C. Type DDINIT ond press retum

Please refer to your Atori DOS operoting monuol for detailed instructions.

2. If you are using OS/A* +, lood the OS/A disk and run the CONFIG program.
   A. Boot OS/A +
   B. Insert blank diskette
   C. Type CONFIG and press return

Please consult your OS/A monuol for detoiled instructions.

Diskettes formatted under these procedures will olways read and write double density.

* OS/A is a registered trademark of OSS, Inc.

trak software and utilities

There are three types of Trak software diskettes:

1. The first is the Double Density software, utilities and game diskette which is packed with every 'AT' series double density drive system. This diskette includes the DDINIT utility for initializing a disk under double density, diagnostic programs which test the disks ROM, RAM and controller. It also performs a random read/write test. Also included on this diskette are one or more games.

2. The second type of software is our Turbo-Charged© software. This software includes utilities that enable your drive to access information from your diskette many times faster than any other drive available today. This software can be purchased from your local Atari dealer.

3. The third type are special utilities, games and business applications that TRAK is now developing. These software packages are being developed to further enhance the speed and capabilities of your Atari system by fully utilizing the unique advanced features of the 'AT' series drives. Please check with your local dealer for availability.

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care of diskettes

Keep the diskette in its protective envelope when it is not being used. The surfoce of on unprotected diskette con be damaged by atmosphere pollutonts or liquids.

Do not expose your diskettes to direct sunlight or excessive heat.

Never wet or wash o diskette.

Do not bend your diskette; it must turn freely in the protective jacket.

Load the diskette gently into the drive so thot it does not bend.

Store the diskettes upright so thot they do not bend.

Do not use pencil erasers on diskette lobels. Eroser dust is abrasive ond will damoge the diskette surface.

Never write on your diskettes with o pencil or pen. Use o felt-tipped pen to avoid indenting the diskette or write on the lobel prior to offixing it to the diskette.

Do not place the diskette near the television set to ovoid magnetic fields which will erose the stored dota.

back-up diskettes

To avoid loss of voluoble dota, you should make bock-up copies of oll your diskettes. These copies should be stored in o secure locotion. Refer to your Atori DOS monuol for detoiled instruction.

diskette write protection

Most diskette monufocturers incorporote o write-protect notch on the jockets of their diskettes. (See figure 6).

When the notch is open, the computer con write on the diskette. By covering the notch with o piece of odhesive tope, the write mechonism in the drive is disobled ond the diskette is write-protected.

Your 'AT' drive will olso outomoticolly write-protect your diskette regordless of the write-protect tob, if you press the write-protect switch on your control ponel! The light will then go on ond your doto will be protected This eliminotes the need to repeotedly odd or remove the tab ond helps ovoid errors by which your doto moy be occidently erosed.

figure 6 Write-Protecting Your Diskettes

warranty information

TRAK Microcomputer Carporation warrants its products ta be free fram defects in material and warkmanship far a period af 90 (ninety) days from the date af original purchase. If a product fails within the warranty period, customer must obtain a Return Authorization Number (RA #) from his TRAK dealer ar fram TRAK and return the product ta his TRAK dealer ar ta TRAK freight prepaid with the RA # marked on the shipping carton and proof af purchase enclosed. TRAK will either repair ar replace the product at its aption and return it ta the Dealer ar custamer, freight prepaid.

The above warranty is cantingent upon praper use in the opplication for which the products were intended and does not cover equipment modified without TRAK's appraval ar which wos subjected ta unusual physical ar electrical stress. Except for the express warranties set farth above, TRAK grants no ather warranties, either expressed ar implied af merchantability and fitness, and the stated express worranty is in lieu af all liabilities ar abligations af TRAK for damages including, but not limited ta incidental or consequential damages occurring out af ar in connectian with the use ar perfarmance af TRAK's products.

For products aut af warranty, the procedures outlined above apply except that TRAK's published service fees shall be charged and the products will be returned freight callect. All repairs shall receive a 90 day warranty on parts ond labor. Far an extended warranty, see your TRAK dealer ar write ta TRAK far details an TRAK's service agreement.

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